

SUPPLEMENTAL REPORT ON CULTIVATION.

Since sending our Report to the Secretary, a few thoughts have suggested themselves as appropriate to accompany the Report. It will be observed that the report urges quite strongly cultivation after planting. But in order to realize the full advantages claimed, two things are essential to success, namely, a good cultivator, and its skillful use. "Never shave with a dull razor" is applicable to all tools; the best should be selected, and the best of its class is the cheapest. The cultivator should be strong, screwed tight, and sharp. A poor tool in bad condition, and in the hands of an unskilled man, will do poor work. We know of no cultivator on sale in these islands that we consider 150-cents for use in our cane-fields. The cultivator called the "Horse Hoe," with some changes that are easily made, we consider the best. The necessary change is to substitute the V tooth in place of the plow and diamond teeth. This change makes it a very efficient tool, both to loosen the soil and cut the weeds.

Mr. Frank Austin has lately invented a cultivator which combines, in a measure, the advantages of this changed "horse hoe" and for cutting large weeds, or for use where ditches or furrows are to be kept open, it is its superior, we think; of this, however, we can only speak theoretically, not having had any large weeds to destroy, or furrows to be kept open since receiving the cultivator on trial.

SKILLFUL USE. The skillful use of a tool is quite as important as the tool itself. We have seen planters set the cultivator at work without any apparent regard as to whether the cultivator was adapted to its work, or the workman understanding its use, or how to keep it in order; and the workman not knowing what cultivation meant. His cultivation seemed to be to plow his employer by getting over as much ground as possible, having no thought of loosening the soil or killing weeds. One Portuguese man, after starting his mule in at the end of the row, was seen to hang the vines upon the cultivator and follow behind some ten or more feet, crack his whip, hawking at his beast, righting up his cultivator if it fell over, and turning the rig at the end of the rows. He was apparently enjoying himself as much as a child, and his skill in having taught both mule and cultivator to "go it alone." The mule moved steadily, but the cultivator bobbed and pitched along like a ship on sea, doing but little good.

We have seen a planter cultivate and cultivate until his hand got so hard and weary that he could not do any more, and the plow had to be used to loosen the soil; after which the same worthless cultivator and imperfect cultivation was continued as before, and with the same results, for when the cane got too large for further cultivation the soil had got again packed with the mules' tramping, and weeds were blossoming between the rows. This kind of work is humbuggery; it is cultivation aimed at, but never performed; it increases labor and a demand for laborers, and injures the cane. Two men, two mules, and two cultivators at least, were required when one of these would have been ample—if the cultivator had been adapted to its work, and used skillfully handled.

Improper cultivation not only requires more men and mules, but extra hoeing also, to complete the work. We think an employer does wrong to himself and other employers, in allowing his work to be done slovenly when it could be done more thoroughly, with less labor if more painstaking and skill were used.

It may be thought nobody's business if one employs a surplus of labor; but we think, in the present state of the labor supply, it is every employer's business, as it tends to make laborers scarce, and wages high. Since commencing this paragraph, our Chairman has demanded two dollars per month more wages, as one plantation in the east and one in the west do to have offered them that much advance upon their present wages. Now, as harvesting and planting is over for the season, it must be made mostly that is troubling these plantations, and we venture to say that both are afflicted with poor cultivators, and still poorer cultivation.

We consider cultivation well done when the soil is loosened from one to three inches deep, and all weeds rooted up from row to row.

JOHN M. BUCKNER, Chairman of Committee.

J. M. Barker, Esq., Chairman Committee on Cultivation.

DEAR SIR:—In reply to your communication, I would say that as my experience of cane cultivation has been limited mostly to the Makawao district it would be well, perhaps, to simply give you our method of cultivation on the Tula plantation, together with my observations on other plantations in the district, and elsewhere.

First. We plow the ground well when possible, and, in furtherance of this, we use the double and triple plows in getting a steam plow, which has been used with cultivation on the former plantation during the past season, although time was not yet allowed, by the judge of its results in comparison with other plowing.

Our method of cultivation is by irrigation, before our furrows must be comparatively level. So we have a man lay off level lines across the field from 25 to 30 feet apart, which are marked out with a one-horse plow. These lines serve as guides to the turning furrows, which come after and cut the furrows from 4 to 12 feet apart, according to the nature and richness of the soil.

These furrows are deepened with a double mold-board plow, and are made to follow the furrows as well made in order that there be no trouble with the watering afterwards, as any inequalities will cause "dry spots" to appear in the field later on if not attended to at the time of plowing.

We make our water ditches through the field from 25 to 30 feet apart, according to the nature of the land, hill-sides requiring ditches nearer together than a greater slope. This might seem a waste of ground, but our experience is that if they are wider than 30 feet we have trouble in getting the water evenly distributed, for as the cane matures it falls down, almost filling the furrows with stalks and leaves, thus retarding the flow of water in a long furrow, making the end next the ditch too much (which causes a waste of water—a serious matter to us, as our water supply is limited), and sometimes not reaching the other end at all. Again, if the row is long, and the cane laid to walk through, the irrigator will often not take the trouble to see that the water reaches the other end, hence we have another cause of "dry spots," as some of our neighbors to all manner of irrigated cane-fields.

The selection of good seed is another very important, and although the practice has prevailed, to a certain extent, on the basis of using volunteer or poor stalks, furnishing but one or two seedlings for seed, yet it is being abandoned in this district, and the best cane seed for that purpose, thus conforming with nature's teaching, which is that, other things being equal, the best and most vigorous seed will reproduce the best and most vigorous plant.

Locke, Wiggin & Harland, in their "Sugar and Refining" say, p. 61, "None but the healthiest and most vigorous canes should be selected. Neglect of this point will result in disease and deterioration." The sugar beet planters are alive to this subject, and by systematic selection have so improved the sugar beet that the best varieties yield juice equal to cane-juice, standing at a density of 10 Baumé. On page 60 of the same authority, we see that "Experience has shown that roots rich in sugar transmit their richness to the next generation, whilst seed from light, ill-shaped roots poor in sugar, produce similar inferior roots."

Scrubby stalks have been used for seed from motives of economy, but in fact they are dearer than good plant-cane, if one takes into consideration their impoverishment of the soil; loss of the land for pasturing during their growth; the number of extra men required to cut a given amount of seed from them; and more than all, the deterioration of the next crop on account of the poor seed.

And although such seed, if planted on rich land, and given good care, will produce a heavy yield, yet, I think that better seed with like conditions would produce a better crop.

We stop irrigating about November 1st of the following year after planting, and grind from December to July. In this district we have about given up, raising rations, as we find that after harvesting our cane the nature of the soil is such that, with the irrigating, it packs hard, so that rations would not do well unless the ground should be loosened, which, if done, would destroy the symmetry of the furrows; and as the old roots protrude from the ground, it would take more water to irrigate a given number of acres of rations than it would take to irrigate the same number of acres of plant-cane—an object to us, for, as I have before said, our water supply is limited.

There are exceptions to the above, however, and we raise rations on our lower fields, where the nature of the soil is different, being of a black, sandy loam, which does not pack hard, as is the case with our red soils.

Yours truly, E. M. WALSH.

Puna, October 9, 1885.

REPORT ON LEGISLATION.

HONOLULU, October 9, 1885.

To the President of the Planter, Labor and Supply Company:

SIR,—We have the honor to make the following report as a Committee on Legislation in connection with the requirements of the planting interest.

In considering this subject, we have endeavored to avoid all questions that do not clearly affect the said planting interest, as it is not our province to suggest any general legislation, nor such as would be in the special interest of commerce.

We are aware that frequent or unnecessary changes in the laws affecting commerce and agriculture are inconvenient and undesirable; and it is of far greater importance that the existing laws should be well understood, and well executed by those by whom and for whom they are administered, than that they should be made the subject of continual amendment and discussion by the Legislature.

Acting upon this principle, we are not prepared to advocate any fresh legislation upon the subject now under review; but we wish to bring very sympathetically before the association the importance of seeing that the existing laws, and especially those in connection with the laborers, shall be carried out so well that they shall be held in respect by planters, laborers, and by those nations and Governments upon whose good-will we so largely depend for our labor and supply.

We believe that the present laws are generally satisfactory, or we should long ago have had remonstrances or refusal of immigration from some of those nations which have hitherto favored immigration to this Kingdom.

We cannot, however, close our eyes to the fact that grave complaints have arisen, and have influenced other Governments adversely to our interests; and that, whereas, they were once disposed to encourage immigration, they are now inclined to look with suspicion upon the mode in which the immigrants are treated or neglected here.

It has long been the boast of this Kingdom that special confidence was reposed by the Great Powers in the administration of justice in our Courts; whilst many nations, far superior to this in size, population, and in antiquity of civilization, have had to submit to the establishment of Consular Courts, and other forms of foreign interference.

A few years ago a great cry arose against the importation of East Indian Coolies because it was alleged that Great Britain would demand the enactment of a law providing for the appointment of a British subject as protector of such immigrants, and upon that ground the scheme was cried down. Other Governments assented to their subjects coming here without exacting any fresh enactments; but, for some reason, steps are now being taken for the appointment of foreigners as protectors of immigrants, without even the formality of asking that laws be introduced to authorize such appointments.

Such a demand can only be regarded as a reproach to the nation, and the compliance with the demand as an act of humiliation. It is a virtual admission that our reputation for the administration of justice in the local Courts is not as good as it was. We do not say that the Administration itself has deteriorated, but that it is clearly unequal to the demand now made upon it.

And, as a matter of fact, we know that the construction of the Police and District Courts does not possess the confidence of those upon whose good report the judicial reputation so largely depends. And, because of the point of legislation. The comparatively recent Act, which placed the appointment of magistrates within the possibility of corrupt combinations has inevitably lowered the standard of public confidence in the magistrates so appointed. The administration of law must be absolutely pure, and any attempt to bring the Courts of the Kingdom within the reach of political influences will necessarily diminish the respect and honor the standard of Hawaiian judicial purity. Neither Sovereign nor Minister, nor legislator can prevent this result, and therefore we earnestly protest against any tampering, however well intended, however apparently trivial, with the nomination of magistrates, or procedure of the Courts of Law.

We believe that a resolute attempt to retrieve and improve our damaged reputation, would yet be successful; but it must be resolute, and free from partisan strife. We recommend that a Royal Commission be appointed, to take into consideration the present status of the police and district courts, and to make such recommendations as shall seem best for the establishment of the said Courts on a basis that will give confidence to all classes in the Kingdom as well as to all other nations with whom we may come into contact.

Such a Commission should be composed of the ablest men that can be found without regard to party or politics, and if the Hawaiian Nation can continue to escape from the demand for the establishment of Consular Courts, such as have been imposed upon China, Japan, Turkey, Egypt, and other nations, and yet maintain the increased intercourse with foreign Governments and subjects that every year develops, it will be an immense addition to the prestige which Hawaii has hitherto enjoyed, by international consent.

It is impossible to regard the recent action of the Japanese Government, however it may be softened and smothered by verbal explanations, as other than an indignity to the Hawaiian Nation; and compliance with the Japanese requisition is undoubtedly an admission on the Hawaiian side, of wrong and neglect. It may be to our interest and convenience to comply, but the demand and the submission do not redound to our national credit; and in the patriotic desire to see the National reputation placed beyond suspicion, we recommend that steps be taken to ask for the appointment of the aforesaid Royal Commission.

We have the honor to remain, Sir, Your obedient Servants, THOMAS H. HAVES, S. B. DOLE, Committee on Legislation.

REPORT OF COMMITTEE ON MACHINERY.

HONOLULU, October, 1885.

To the President and Members of the Planter, Labor and Supply Company:

Your Committee on Machinery are unable to present many new features, although the past year has been remarkable for the steady introduction of improved machinery into a great number of our sugar houses.

THE TURNERS.

Jarvis and others which a year ago were reported with varied and somewhat doubtful success are now on the whole regarded as economical improvements, although in some locations the application of the Jarvis principle is regarded as doubtful, probably in consequence of the chimney being placed near about-jetting upers of hill-sides and creating a condition of upper air currents and seriously interfering with what would be under other circumstances a good draft; this may account for their being reported a success one day and a failure the next day.

THE SMOKE CONSUMERS OR HOT AIR PIPES. Introduced into the brick work of an ordinary steam boiler is in our opinion more to be commended than the Jarvis Furnace, because but little alteration is necessary, and but little cost incurred in their introduction. That they are effective is beyond a doubt as trash brought direct from the rollers is burned on common grate bars generating an abundance of steam and consuming its own smoke. This alone will commend its use by all users of steam, laying aside the comparative cost between the two classes of furnaces.

THE MACERATION OR DOUBLE CRUSHING PROCESS. Perhaps the most striking advance made during the past year is the double crushing or five roller mill. The first three of these rollers are constructed in the ordinary manner and the second pair placed far enough away so as to admit of a bath or spray of hot water in the trash previous to entering the final crushing, but if desired the bath or spray can be dispensed with.

Mr. C. C. Kennedy, the manager of the Waialeale Mill of Hilo, writes as follows: "The automatic feed for the two roller mill is the secret of success with the double crushing," and says further, "that after the first mill's good grinding, he can get with hot water from the second mill 16 to 15 percent. additional juice," and without water and grinding the best he could do with the three roller mill, he gets from 13 to 15 percent. additional, with the juice 1 to 1 degree higher density than what the juice stands at from the first mill. In speaking of the trash, Mr. Kennedy says, "as it leaves the second mill it is dry and looks like chips and sawdust from a planing mill." The performance of the above mill has been witnessed by a great number of our members and the verdict is unanimous in its favor. It is further attested to by the fact that the Honolulu Iron Works is working its fullest capacity manufacturing these double crushers.

THE DOUBLE EFFECT. As an evaporating agent this apparatus is becoming very popular and seems to be preferred to the triple effect by most practical sugar-brokers. Its value as an economic agent, consists in the fact of its using up and utilizing exhaust and other steam that only a few years ago was wasted in the air and unfortunately in too many places is done so to this day, but when we fully realize the gain on the coal bills, the slight but increased amount of manufactured sugar, and the enhanced polarization of our various grades, then we predict for the double and triple effects a place in all well organized sugar estates. That the gain is being realized is undoubted judging from the number of alterations during the past year and in which this apparatus has been introduced.

Will most probably be our next step forward and when the time comes as we think it surely will, we must be prepared to fall in line. Distant though we are from the great centers of trade we cannot afford to be left behind in the march of progress. We see that little by little the difficulties are being overcome and that sugar cane can be and is today successfully converted into sugar by the process of diffusion. The question of its adaptability has given place to one of fact, which to us on these islands is one of serious importance, but which will not, we believe, be fatal to the ultimate introduction into this Kingdom of the Diffusion Battery.

Respectfully Submitted, ROBT. HAINES, Chairman, W. E. ROWELL.

REPORT OF THE COMMITTEE ON FRUIT CULTURE.

To the President of the Planter, Labor and Supply Company:

The promotion of fruit culture engages our attention as a means not only of making our islands the delightful Eden they are calculated to become, but also of opening new avenues of wealth. The fact that in California this industry has lately begun to rival those of mining and of the culture of cereals, and that already on only one of our islands the culture of bananas has become next to that of sugar cane, our most profitable agricultural industry, and that many of our fruits might be cultivated by the square mile where now they are barely cultivated at all, indicate that much may be done to make the raising of tropical fruits profitable here.

Your committee have chiefly inquired what can be done in the way of introducing new varieties of fruits; and what can be done in exporting such fruits as we can successfully cultivate.

The introduction of foreign fruits has been so largely accomplished through private enterprise, and notably through the former efforts of Dr. Hillebrand under Government patronage, as to leave us that nearly everything grown in the tropics can be made to thrive in our islands. Much may be done in obtaining better varieties of the fruits already introduced. It has been remarked that grafts of foreign varieties of oranges and lemons can be introduced to advantage, bearing early and appearing as largely as the native stock, and that probably Chinese orange seedlings brought from those varieties would also do well. There is little doubt but that better varieties of mangoes than those common here could be easily introduced. A variety from Manila has already been started in Honolulu, and several trees have begun to bear. Some of the 70 varieties of bananas said to grow in Cuba, and of the immense number of varieties found by Stanley on the Congo, and of the varieties in the Micronesian Islands, would be interesting additions to our flora.

A large number also of fruits not yet known in our islands might be obtained by exchanges with the managers of Botanical Gardens. Some fruits that will not thrive in one locality might thrive in another in the various conditions of climate, soil, and altitude above the sea. It is probable that the Mangosteen and the strange fruit called the Durian, described by the distinguished Wallace as "The King of Fruits," might be made to thrive in the rich soil and hot and sheltered regions of Kona, Hawaii.

The cultivation of fruits of the temperate zone has not yet been fairly tested. These fruits are chiefly Rose-apple, as those of the tropics are chiefly Myrtaceous. They were originally introduced into Europe from the mild climate of Armenia, Asia; and after centuries acclimated. About four years ago some of the leading varieties of these fruits were planted at Olinda, Maui, at an elevation of 4,000 feet above the sea. They have made a healthy, though slow growth. Blackberries have grown as well and borne as abundantly as in California. Raspberries have lately been planted and are growing well. The English Walnut and the Japanese Chestnut grow remarkably well, and probably might be profitably raised in the upper parts of our forests and on the high plains of Hawaii. Apple trees are said to bear abundantly at Ulupalakua, Maui. It seems probable that here on the borders of the tropical and temperate zones we may at different altitudes above the sea successfully cultivate both the Rose and Myrtle fruits.

The chief requisite for the promotion of our fruit culture is a facility for marketing. It should engage our attention to further the drying of fruit by the Aldin process, the canning of fruit by the most economical methods, and also the exporting of fruit by the most economical vessels carrying sugar there were a few steamers to add to their cargoes bananas, pineapples, avocados, and other fruits to be gathered from all our islands, and to take the more perishable fruits by large refrigerators our fruit culture might become a very important industry.

J. M. ALEXANDER.

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